

FIG.2

FIG.3

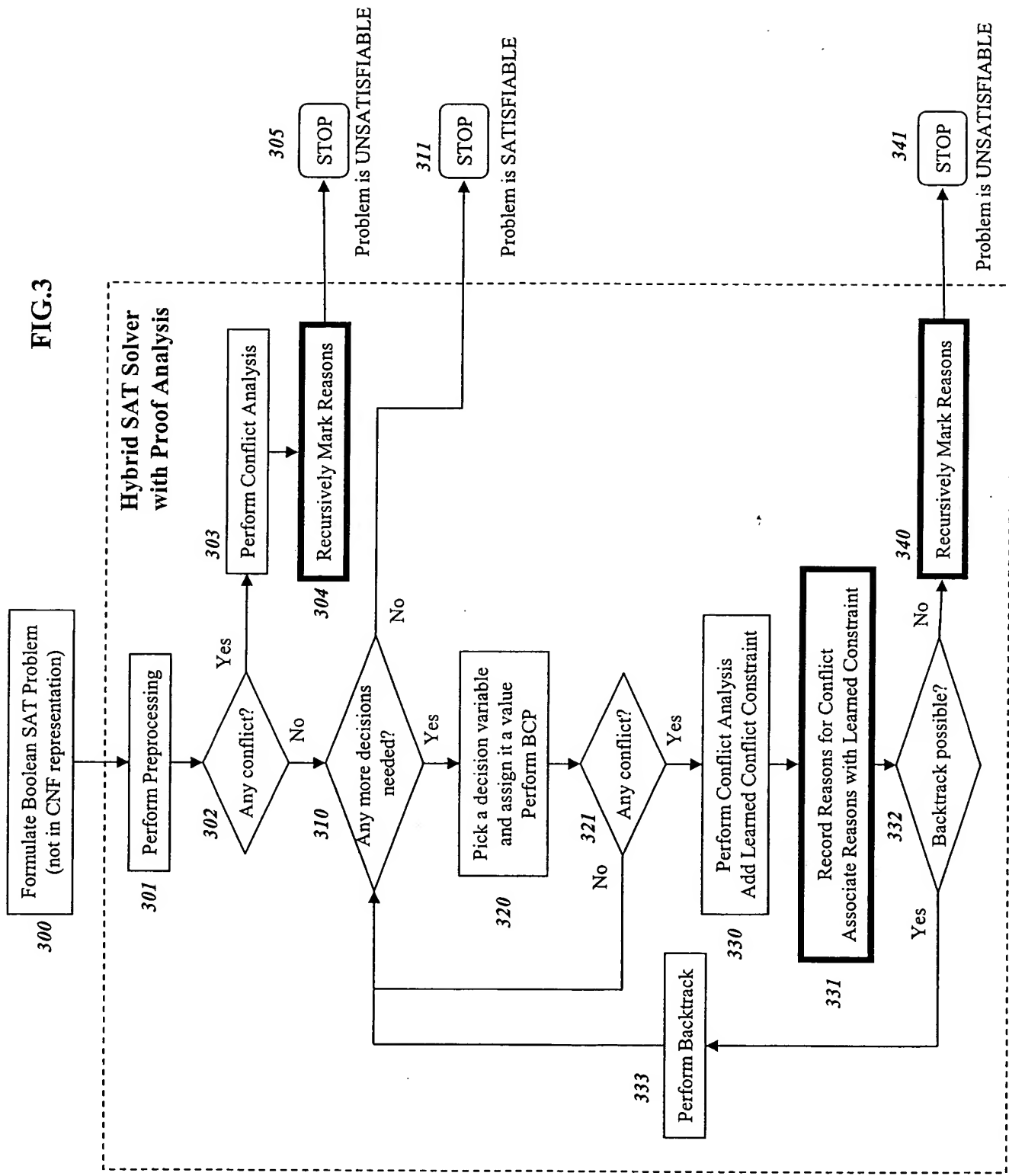
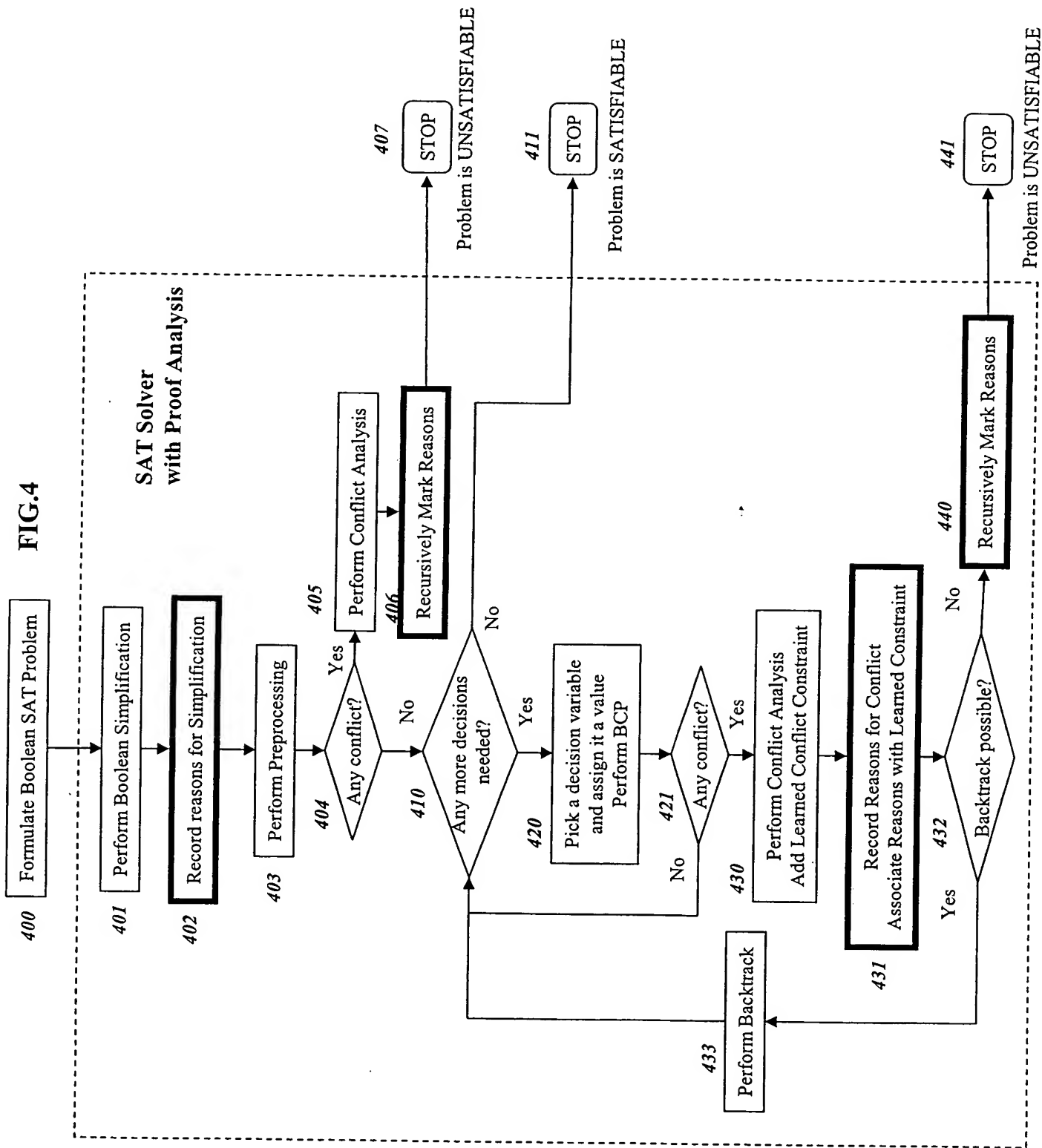


FIG.4



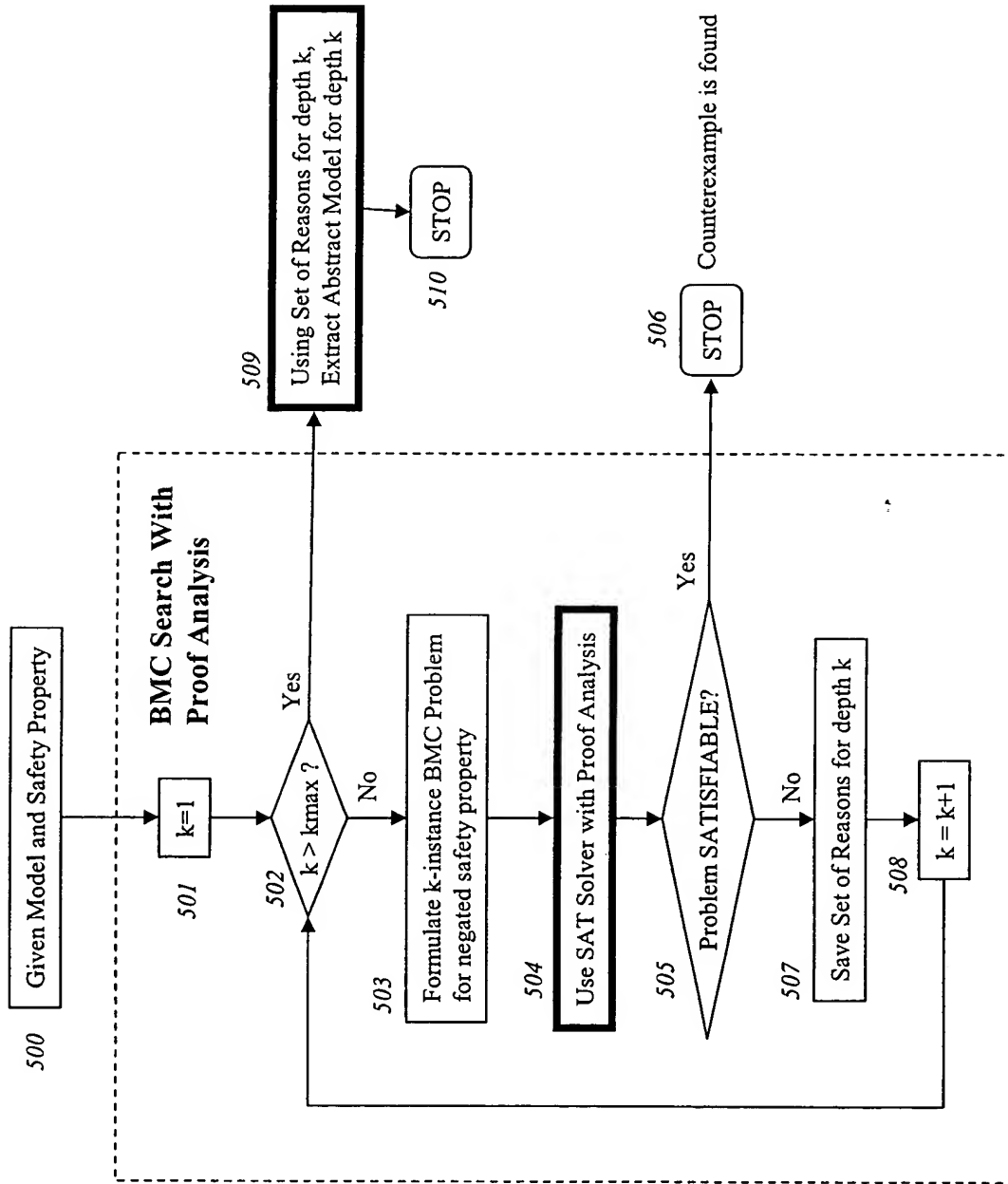
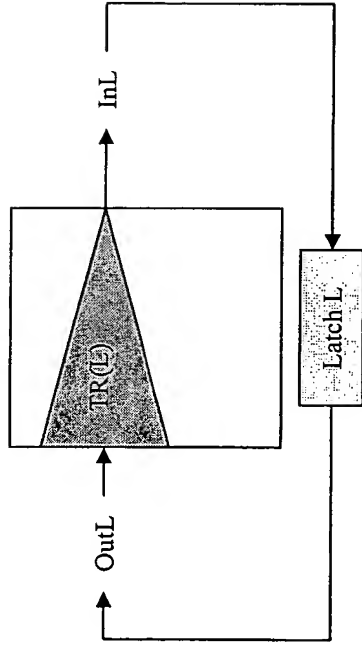
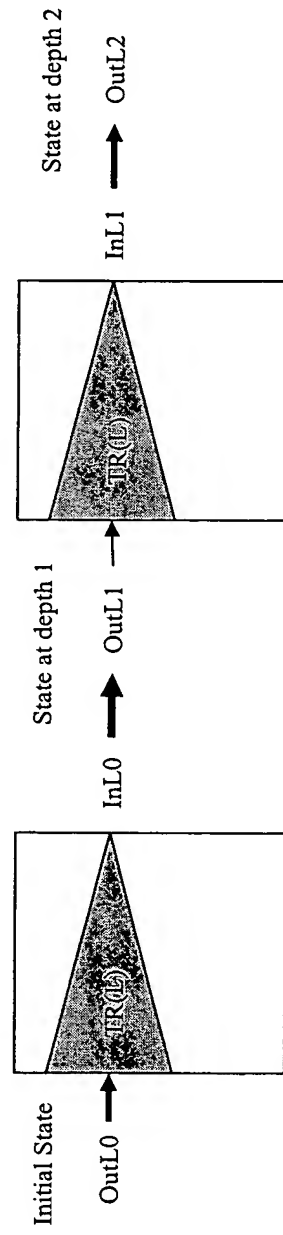


FIG.5

TRANSITION RELATION OF DESIGN



UNROLLED DESIGN UP TO DEPTH 2



Interface Constraints for Latch L up to depth 2:
 $IF(L,2) = \{OutL0 = \text{initial state}(L), InL0 = OutL1, InL1 = OutL2 \}$

FIG.6

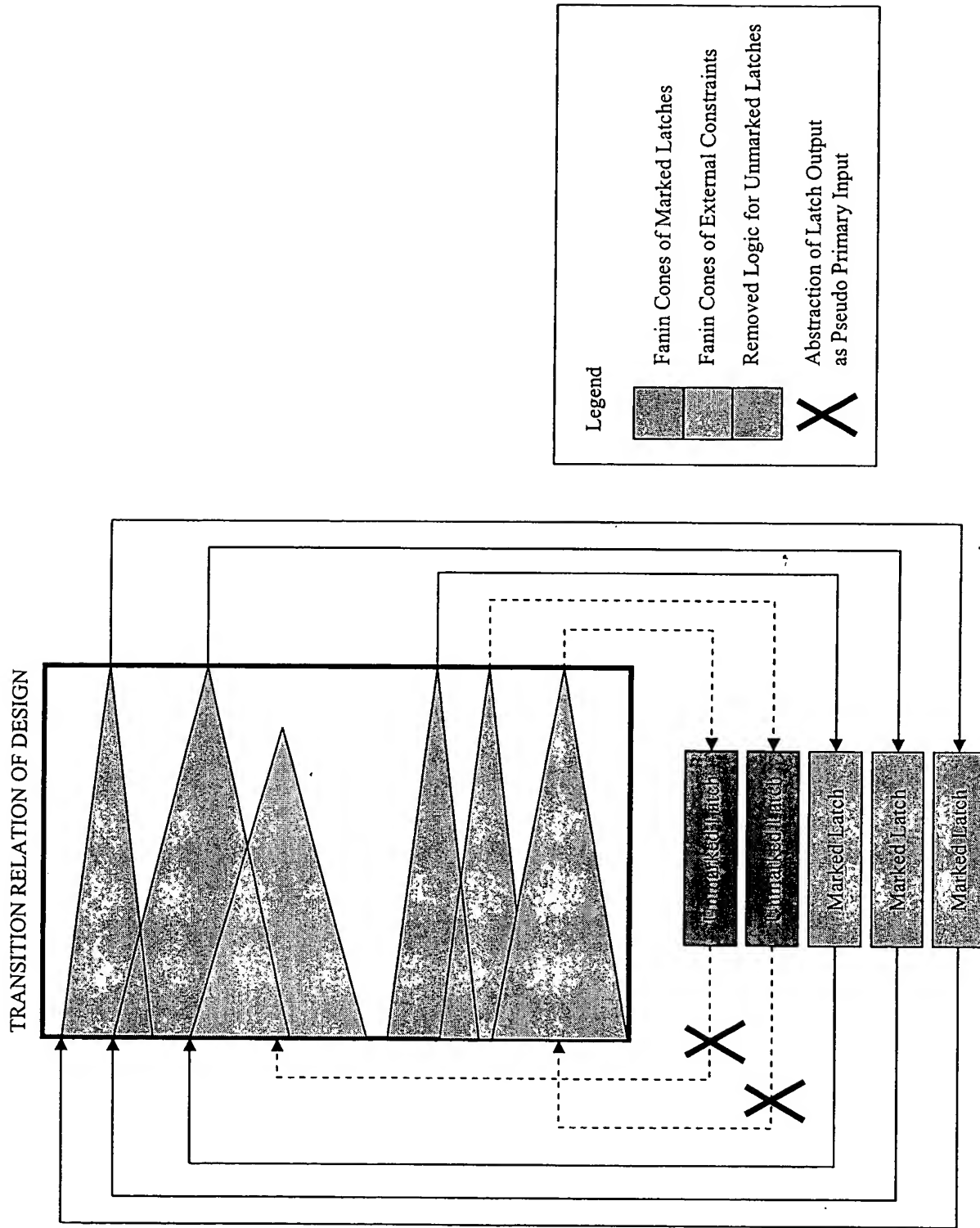


FIG.7

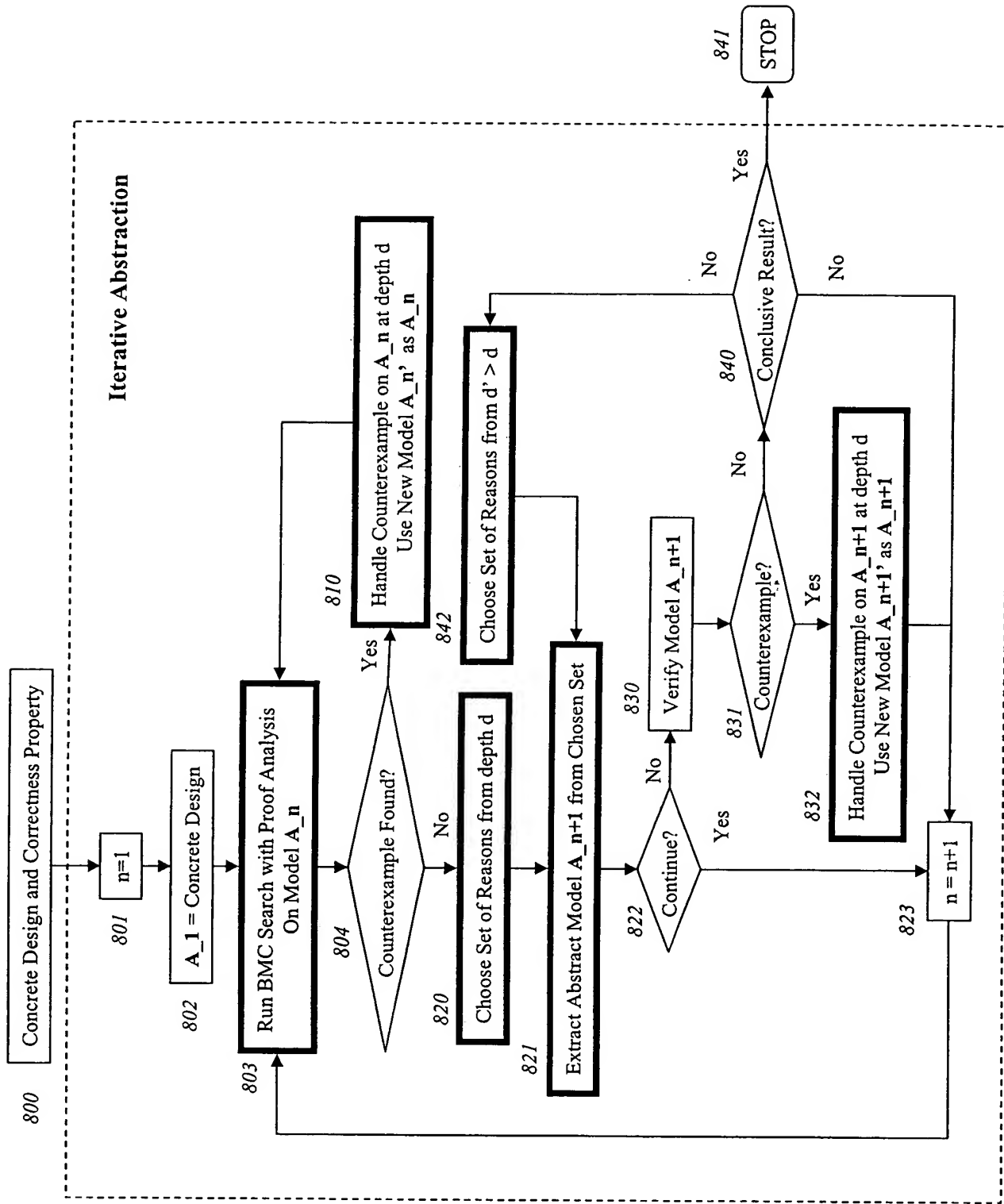


FIG.8

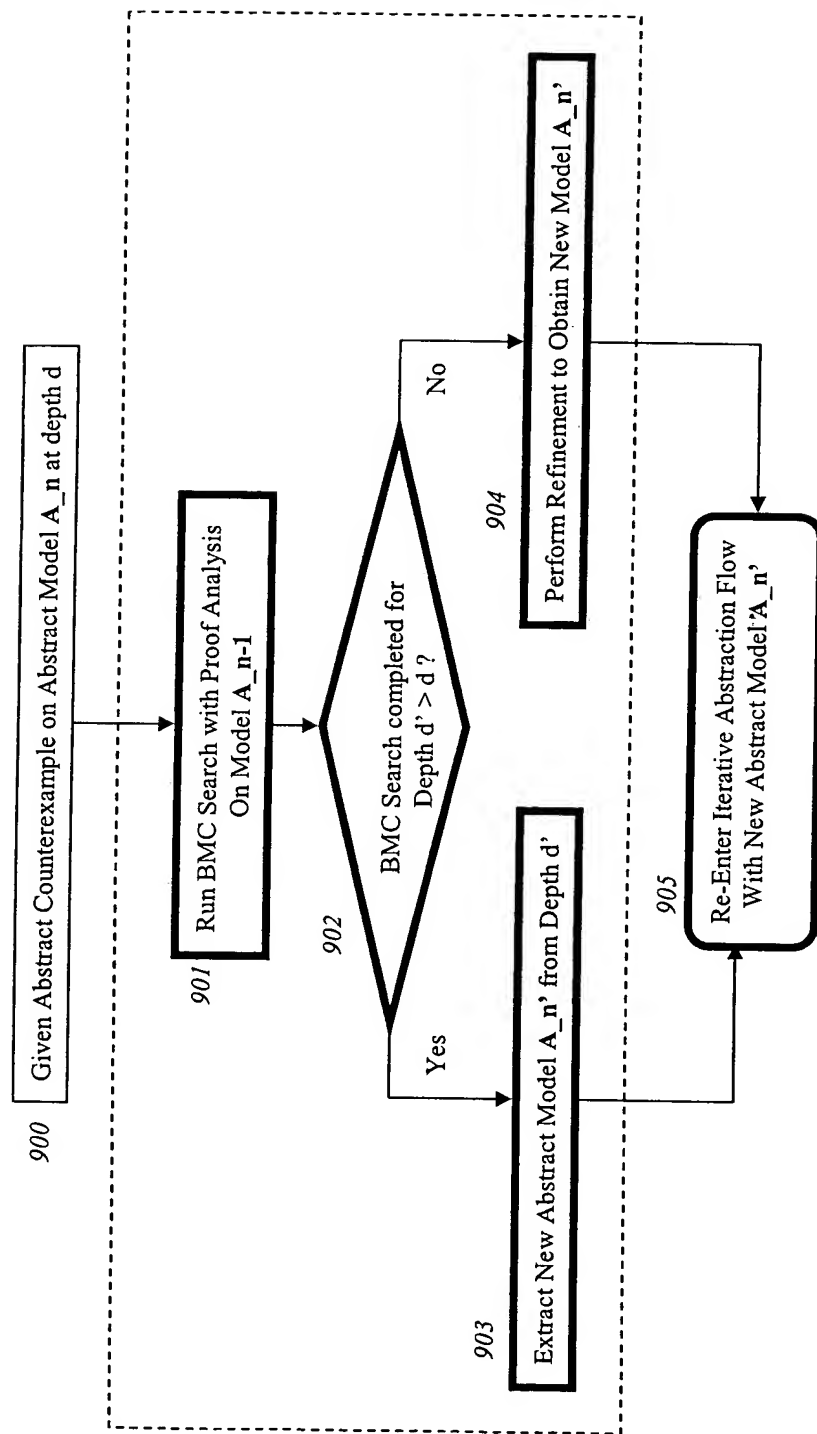


FIG.9

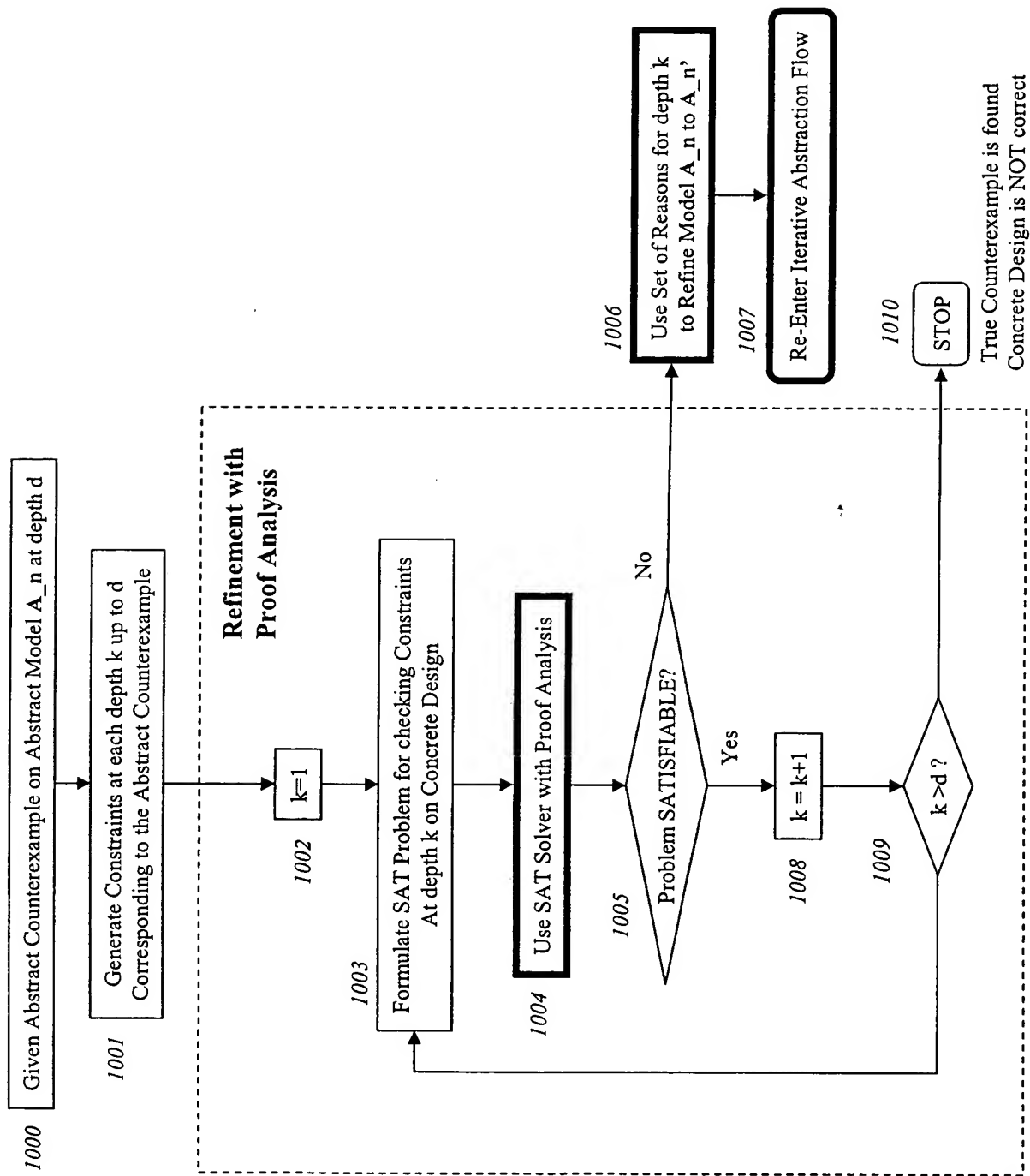


FIG.10

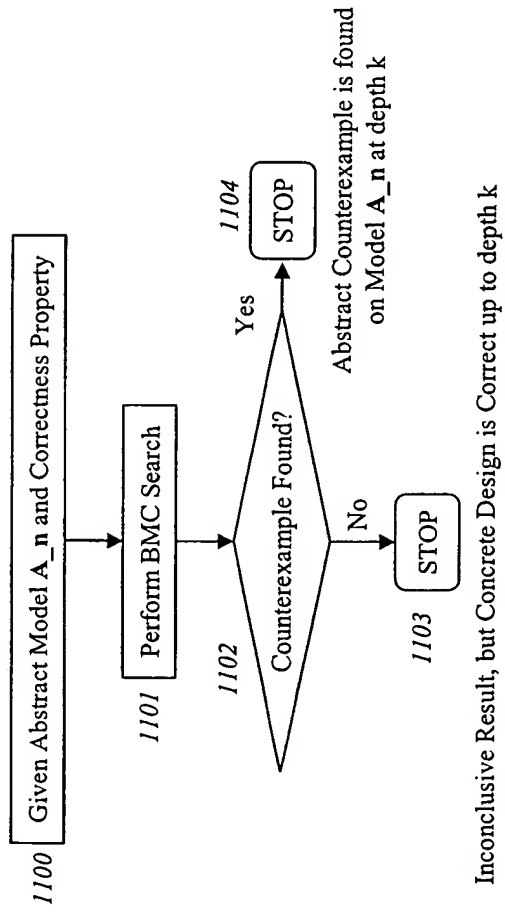


FIG.11

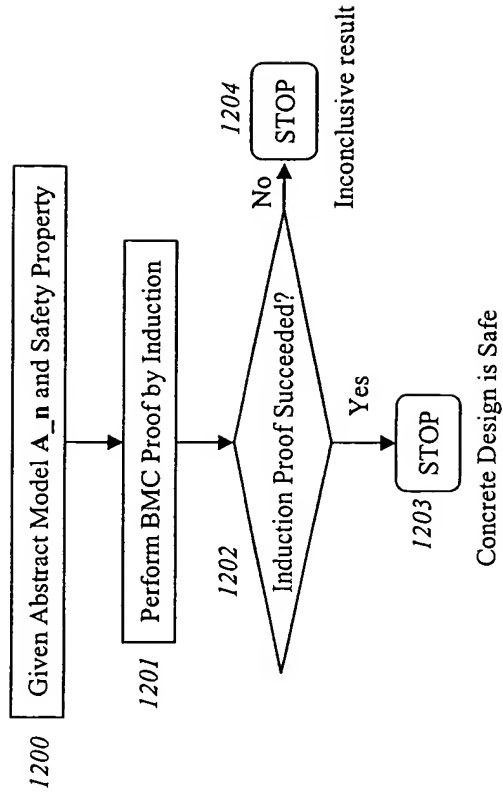


FIG.12

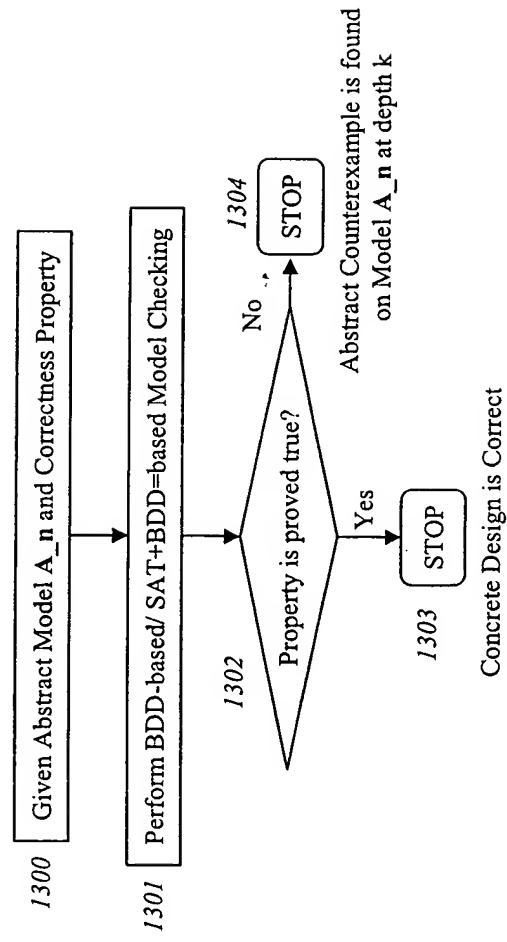


FIG.13

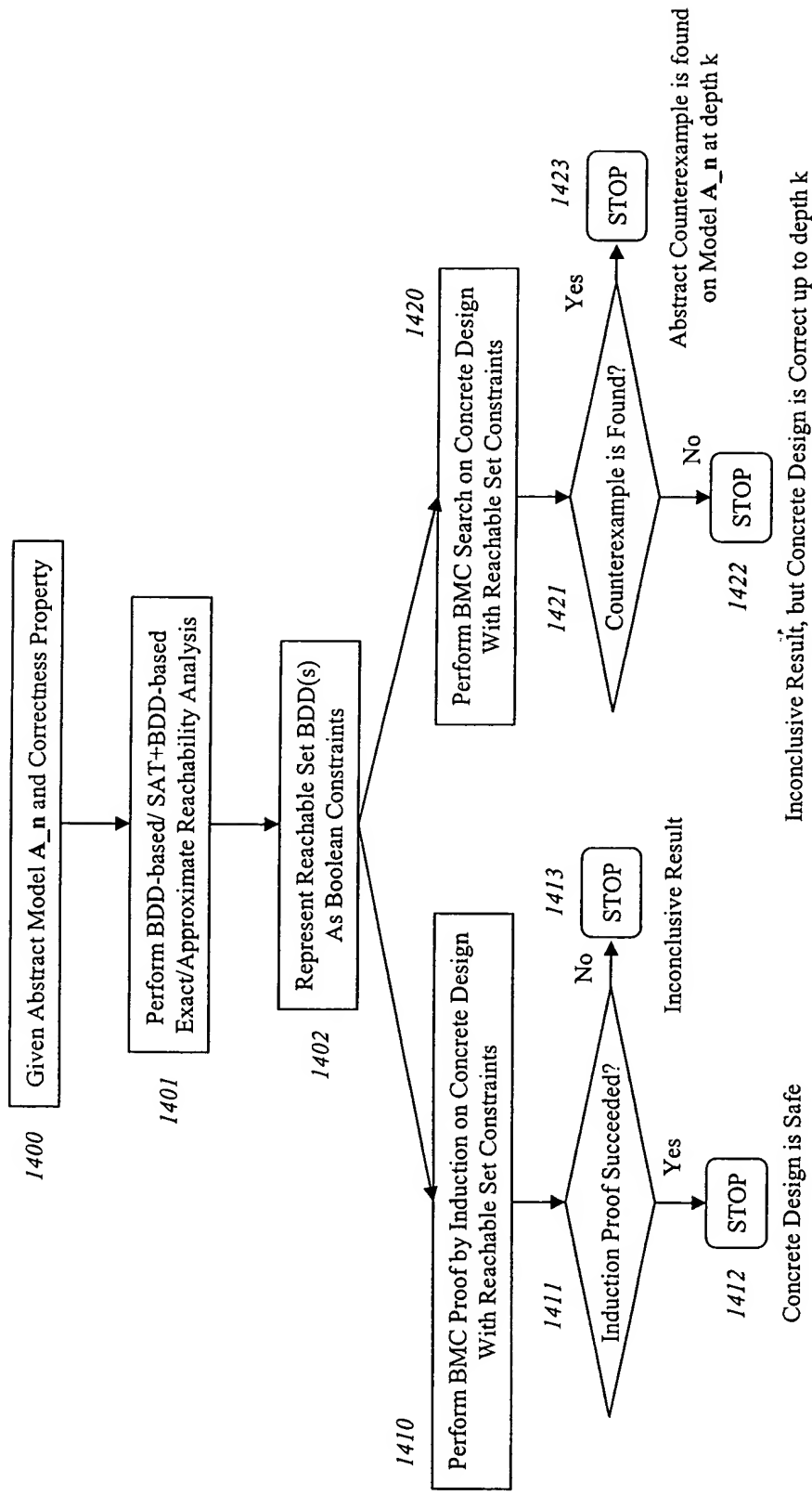


FIG.14

Clauses:

$C1: x1' + x2 + x6$

$C2: x2 + x3 + x7'$

$C3: x3 + x4' + x8$

$C4: x1' + x6' + x5'$

$C5: x6' + x7 + x8' + x9'$

$C6: x5 + x9 + x10$

$C7: x9 + x10'$

Conflict Clause C8:

$x1' + x2 + x3 + x8'$

Due to conflict $(x10, x10')$

Antecedents(C8) =

$\{C7, C6, C5, C4, C2, C1\}$

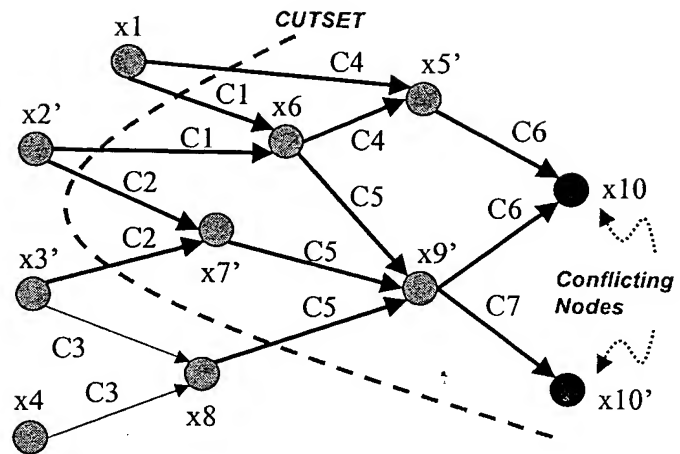
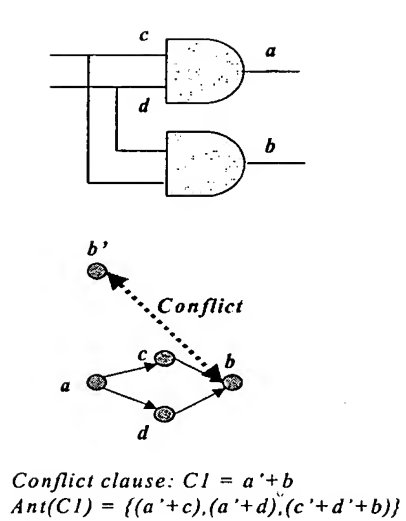


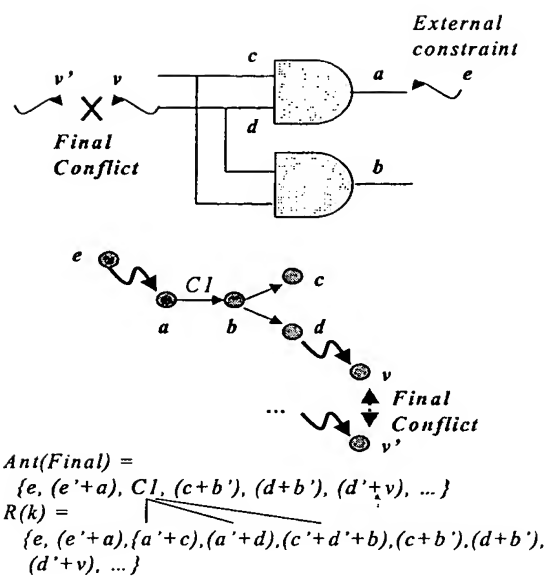
FIG. 15

```
rec_dfs_through_marked_nodes(node n) {  
    if (visited(n)) return;  
    if (!marked(n)) return;  
    visited(n)=1;  
    for each m in fanin(n) {  
        rec_dfs_through_marked(m);  
    }  
}
```

FIG. 16



Part (a)



Part (b)

FIG. 17